

REMARKS

This Amendment is being filed in response to the final Office Action mailed June 20, 2005. Claims 1-37 are pending. Claims 1, 4 and 18 have been amended and claims 2 and 23 have been cancelled.

In the Office Action, the Examiner has maintained his rejection of claims 1-4 and 12-17 under 35 U.S.C. § 102 (b) as being anticipated by Louis (U.S. Patent No. 4,604,331). In addition, the Examiner has rejected claims 1 and 12-17 under 35 U.S.C. § 102 (b) as being anticipated by Batawi (U.S. Patent No. 5,902,692). The Examiner has maintained his rejections under 35 U.S.C. § 103(a) of claims 5-9 and 11 as being unpatentable over Louis in view of Franklin et al. (U.S. Pub. No. 2002/0022382) and of claims 18-37 as being unpatentable over Louis in view of Franklin et al. and Gionfriddo (U.S. Patent No. 4,689,280). With respect to amended claims 1 and 18, and their respective dependent claims, the Examiner's rejections are respectfully traversed.

Applicants' independent claims 1 and 18 have been amended to clarify the features of the present invention. Particularly, each of claims 1 and 18 now recite a compliant member comprising a planar body member, wherein sections of the planar body member within the planar body member extend outwardly of the plane of the planar body member. This is shown in FIG. 5 by body member 61 with sections 65 of the body member within the body member. Claim 1 has been further amended to include the limitation of claim 2, namely, that the planar body member is configured to be fit within the wet seal area in which the compliant member is arranged. Claim 18 has been similarly further amended to include the limitation of claim 23.

With regard to claims 1-4 and 12-17, the Examiner states that Louis describes a separator plate for a fuel cell with sealing flanges and that it is well known that the sealing

flange is the wet seal area. According to the Examiner, Louis shows a compliant member (Fig. 6) with a body member (53) and a section extending outward of the plane of the body member (51). In response to applicants' previous arguments that the foot part (53) is not a planar body member, the Examiner states: "The foot part (53) is a planar body member, such that the foot lies within a plane. Top section (51) is a part of the body member that extends outward from the plane created by the foot part (53). Examiner still holds that if pressure were applied to the spring member of Louis, the top section (51) would lie in the same plane as the foot (53). Regarding claim 2, the Examiner states that Louis shows the compliant member located in the wet seal area in FIG. 6.

However, the "planar body member" referred to by the Examiner (foot 53) does not include "sections" within the planar body member which extend outwardly of the planar body member, as required by and now more clearly recited in applicants' claims. In particular, the top section (51) and the foot (53) are both parts of an elongated, continuous channel-shaped reinforcing member (50), as described in the Louis patent (Col. 4, lines 44-50). The top portion 51, while it may continue from the planar body member, i.e., foot (53), is not a section within the planar body member, i.e., foot (53), as required by applicants' amended claims.

Moreover, applicants respectfully submit that even if the top portion (51) did lie in the same plane as the foot (53) if enough pressure were applied to flatten spring member (50), as the Examiner has suggested, the top portion (50) would still not be within the planar body member, i.e., foot (53).

Applicants therefore submit that claim 1 and its dependent claims patentably distinguish over the Louis patent.

With regard to claims 1 and 12-17, the Examiner states that Batawi teaches a compliant member comprising a planar body member having sections extending outwardly of the plane of the body member (FIG. 3; col. 3, lines 48-51). Regarding claims 12-17, the Examiner states that Batawi shows the sections arranged in rows such that one side is attached to the body member, and that one side of each section extends along one of the length and width of the body member, and the rows of sections are offset from each other in the length of the body member.

Batawi is directed to a battery with planar high temperature fuel cells, comprising alternating layers of electrochemically active plates and interconnectors. The interconnectors function as air heat exchangers and have a basic body including an air side and a gas side. Each side includes a structured layer, such as the example of a structured layer 5 for the gas side, shown in FIG. 3. The "compliant member" (layer 5) is a metal sheet punched to form apertures 50 and tongues 51 and 52 bent out at both sides (Col. 3, lines 47-51). Tongues 51 and 52 maintain electrical contact with the structures 2 and 3 in the interconnectors, but there is no teaching that such tongues 51 and 52 impart compliance to the compliant member, as required by applicants' claims.

In addition, as noted above, the structured layers are disposed on the air and gas sides of the interconnectors of the planar high temperature fuel cells. Batawi does not teach or suggest that the planar high temperature fuel cell has a plate structure defining a wet seal area, said wet seal area being adjacent an electrode and current collector, that the structured layer is arrangeable in the wet seal area, or that the planar body member of the layer is configured to be fit within the wet seal area in which the compliant member is arranged, as also required by

applicants' amended claims. Applicants therefore submit that claim 1 and its dependent claims 12-17 patentably distinguish over the Batawi patent.

With regard to claims 5-9 and 11, the Examiner argues that Louis teaches the use of a spring (i.e., the reinforcing member 50) as the compliant member in which, if enough pressure is applied, sections (52) would lie in the same plane as the body member (53). The Examiner turns to Franklin et al. for the teaching of independently acting springs all attached on the same side to a body member, as shown in Fig. 9L. According to the Examiner, it would have been obvious to one of ordinary skill in the art to modify the reinforcing member of Louis with the independent spring assembly of Franklin et al. to compensate for variation in the fabrication or assembly of the cell and to further improve electrical contact within the cell.

The spring pieces taught by Franklin et al. are individual springs connected to a base plate (e.g. springs 37 connected to the base plate 38 in FIG. 9L). These springs are independent from, not sections of, the base plate and are not within the base plate. Accordingly, there is no teaching or suggestion in the Franklin et al. reference of a planar body member, wherein sections of the planar body within the planar body member extend outwardly of the plane of the planar body member, as required by applicants' amended claim 1.

In addition, as has been previously argued by applicants, the spring pieces 37 in the Franklin et al. reference are used to provide contact between a bipolar separator plate ("BSP") and a membrane electrode assembly ("MEA") in a proton exchange membrane ("PEM") fuel cell. Applicants respectfully submit that there is no teaching or suggestion in the Franklin et al. reference to use such a structure to provide compliance in the wet seal area of a separator plate of the type described in the Louis patent. Thus, the Louis patent and the Franklin et al.

reference, either alone or in alleged combination, do not teach or suggest the features of applicants' amended claim 1 and its respective dependent claims 5-9 and 11.

The cited Gionfriddo patent is directed to an end plate structure for fuel cell stacks. With regard to claims 18-37, the Examiner argues that Gionfriddo teaches the use of a current collector 56 that extends into the sealing flange 54 (Fig. 2), and Fig. 1 shows the assembly of an anode 34 and cathode 38 placed in the active area. According to the Examiner, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the current collector, anode and cathode assembly of Gionfriddo with the sealing separator plate of Louis as modified by Franklin et al. in order to have a complete fuel cell with improved sealing features and improved electrical contact system.

In the first place, it is not believed that a skilled artisan would combine the Gionfriddo Louis and Franklin, et al. patents, as Examiner has done, to arrive at a fuel cell in which a compliant member abuts a current collector over a region of the current collector extending into a wet seal area, as required by applicants' claims 18-37. Moreover, applicants submit that the Gionfriddo patent, like the Louis and Franklin et al. patents, also fails to teach or suggest a "compliant member comprising a planar body member, wherein sections within the planar body member extend outwardly of the plane of the planar body member, said sections within said planar body member imparting compliance to said compliant member, and wherein said planar body member is configured to fit within said wet seal area" as required by applicants' amended claim 18. Accordingly, applicants submit that applicants' claims 18-37, as amended, patentably distinguish over the combination of the Louis, Franklin et al. and Gionfriddo patents.


In view of the above, it is submitted that applicants' claims, as amended, patentably distinguish over the cited art of record. Accordingly, reconsideration of the claims is respectfully requested.

If the Examiner believes that an interview would expedite consideration of this Amendment or of the application, a request is made that the Examiner telephone applicant's counsel at (212) 790-9273.

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Respectfully submitted,


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